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AUTHOR Seivert, Chester
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ABSTRACT

Several intermediate performance objectives and corresponding criterion measures are listed for each of 13 terminal objectives for an intermediate printing course. The materials were developed for a two-semester (3 hours daily) course with specialized classroom, shop, and practical experiences designed to enable the student to develop proficiency as a printer with emphasis on composition, letter press work, bindery, offset camera platemaking, and offset press. Also included is instruction on Ludlow composing machine, Kluge auto platen press, vertical and horizontal cylinder press, and folding machine. Safety is emphasized in all phases of instruction. The titles of the 13 terminal objectives are Orientation, Legal Restriction, Layout and Design, Composition, Process Photography, Darkroom Procedures, Stripping, Platemaking, Offset Ink and Paper, Bindery Operations, Offset Press Operation, Production Problems, and Occupations and Evaluation. (This manual and 54 others were developed for various secondary level vocational courses using the System Approach for Education (SAFE) guidelines.) (HD)

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PRINTING

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PERFORMANCE OBJECTIVES

INTERMEDIATE COURSE

PRINTING

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PRINTING

PRINTING

CE 010 957

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July, 1975

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School Industry Education

Mr. Joseph Killough, Coordinator
School Industry Education

Mr. Charles Downing, Supervisor
Vocational-Technical Education

The following educator participated as the writer of this manual:

Mr. Chester Seivert, Instructor

Cover design and printing by Mr. Chester Seivert

Typist: Cathy Boatright

PRINTING - INTERMEDIATE

ACCREDITATION NUMBER: 9753

LENGTH OF COURSE: 2 Semesters

TIME BLOCK: 3 Hours Daily

COURSE DESCRIPTION

Specialized classroom, shop and practical experiences designed to enable the student to develop proficiency as a printer with emphasis on composition, letter press work, bindery, offset camera plate making and offset press. Also included is instruction on Ludlow composing machine, Kluge auto platen press, vertical and horizontal cylinder press and folding machine. Safety is emphasized in all phases of instruction. Students who complete the course objectives and who are recommended by the instructor are placed on-the-job in the S.I.S. program.

INTRODUCTION

The purpose of this curriculum guide is to provide the intermediate student with advanced information and practical industrial printing problems to better qualify him for successful employment in the industry.

The writers have attempted to incorporate the suggestions of the Printing Craft Committee as to the current needs of the industry. Emphasis has been placed on copy preparation and paste-up with anticipation that during this course the student will become more proficient in these areas.

It is also anticipated that this course will be a challenge to the student and satisfy the requirements of industry and the needs of the student.

PRINTING - INTERMEDIATE

Syllabus of Terminal Performance Objectives

1.0 Orientation

2.0 Legal Restriction

3.0 Layout and Design

4.0 Composition

5.0 Process Photography

6.0 Darkroom Procedures

7.0 Stripping

8.0 Platemaking

9.0 Offset Ink and Paper

10.0 Bindery Operations

11.0 Offset Press Operation

12.0 Production Problems

13.0 Occupations and Evaluation

Grade recording procedures for this guide

COURSE PRINTING - INTERMEDIATE

TERMINAL PERFORMANCE
OBJECTIVE NO. 1.0 ORIENTATION

The student will demonstrate his knowledge of the grading system, shop behavior and shop safety, and club participation by completing a written test with 70% accuracy.

NO.	INTERMEDIATE PERFORMANCE OBJECTIVES	NO.	CRITERION MEASURES
		1.0	See attached 9 weeks test
1.1	The student will demonstrate his knowledge of the grading system by orally discussing the following grading criteria: 1. shop exercises and notebook 2. tests 3. attendance 4. attitude	1.1	List the 4 criteria used in determining your grade in the printing lab.
1.2	The student will demonstrate his knowledge of expected behavior and safety rules by orally answering questions with 80% accuracy.	1.2	Answer the following test questions: 1. A worker who persists in "horseplay" should be barred from the shop for whose protection? 2. Whose permission must be obtained before equipment is operated or adjusted or chemicals are mixed? 3. Before you begin operating a machine, what do you do with the following? a. sleeves_____ b. jewelry_____ c. hair_____ 4. What type of eye protection device is compulsory to wear when chemicals are being mixed or used? 5. How many students operate the paper cutter at one time?

COURSE PRINTING - INTERMEDIATE

TERMINAL PERFORMANCE OBJECTIVE NO. 1.0 (cont'd) Orientation

NO.	INTERMEDIATE PERFORMANCE OBJECTIVES	NO.	CRITERION MEASURES
1.3	The student will demonstrate his knowledge of the values to be gained in being associated with VICA by completing a given test with 75% accuracy.	1.3	Complete the following test questions: 1. Circle 8 of 10 following benefits which may be derived from VICA. a. group participation b. parliamentary procedure c. driving d. pride in occupation e. public speaking f. competition g. awards h. voting i. singing j. social interaction 2. The letters VICA stand for: _____ _____ _____ _____ 3. The cost of VICA membership is _____. 4. Who is eligible to belong to VICA?

COURSE PRINTING - INTERMEDIATE

TERMINAL PERFORMANCE OBJECTIVE NO. 2.0

LEGAL RESTRICTIONS ON PRINTING

The student will demonstrate his knowledge of legal restrictions on printing by answering questions on a written test with 70% accuracy.

NO.	INTERMEDIATE PERFORMANCE OBJECTIVES	NO.	CRITERION MEASURES
		2.0	Answer the following test questions: 1. How long does a copywright exist? 2. Is it legal to make a negative of a one dollar bill at 200%? 3. Is it legal to make a copy of your birth certificate? 4. Is it legal to make a copy of your driver's license? 5. Is it legal to photograph a U.S. coin?

COURSE PRINTING - INTERMEDIATE

TERMINAL PERFORMANCE OBJECTIVE NO. 3.0

LAYOUT & DESIGN

The student will demonstrate his knowledge of layout and design by completion of a written examination with 75% accuracy as measured by the shop rating scale:
1. redesign a printed job 2. design a program cover 3. design a newspaper ad

NO.	INTERMEDIATE PERFORMANCE OBJECTIVES	NO.	CRITERION MEASURES
		3.0	See attached 9 weeks test. PROBLEMS: 1. Redesign the printed job given you by the instructor 2. Design a program cover for the school play 3. Design a newspaper layout as per instructions
3.1	The student will demonstrate his knowledge of good layout principles by orally answering given questions with 75% accuracy.	3.1	Answer the following test questions: 1. Before full size layouts are prepared, small _____ sketches are made. 2. A layout which is full size and resembles as closely as possible the final desired job is known as a _____ layout. 3. Type, 14 points and larger is called _____ type. 4. Two of the reasons for making full size, detailed layouts are to make sure the _____ will be satisfied with the final printed job to inform each _____ _____ of exactly what is to be done in the production of the job.
3.2	The student will demonstrate his skill in layout techniques by redesigning a job printed for the school or a business with 75% proficiency according to the grading scale below: 1. adherance to correct layout principles 2. neatness 3. accuracy 4. effective use of time	3.2	Redesign a printed job which is used in school or a business. Make 4 thumbnail sketches, a rough layout, comprehensive layout, paste-up, and print 25 copies. Compare the original design to your design, evaluate with the instructor and then mount a copy in your notebook.

COURSE PRINTING - INTERMEDIATE

TERMINAL PERFORMANCE OBJECTIVE NO. 3.0 (cont'd) LAYOUT & DESIGN

NO.	INTERMEDIATE PERFORMANCE OBJECTIVES	NO.	CRITERION MEASURES
3.3	The student will demonstrate his skill in layout and design by completing given exercises with 75% proficiency according to the attached grading scale. Grading Scale: 1. adherance to correct layout procedures 2. neatness 3. accuracy 4. effective use of time	3.3	A. Design - make thumbnails, rough layout, comprehensive and paste-up, then print 25 copies of a 2 color cover to be 4" x 6" with one cut and copy: SENIOR CLASS PLAY FORREST HIGH SCHOOL DATE B. Design - make thumbnails, rough layout, comprehensive and paste-up for a newspaper advertisement to be 8" x 10" with the following copy: Headline: SLINKY EVENING GOWNS Text: Full bell skirt beneath a snug bodice. Beautifully shaped low neckline of snowy white rayon. Proud lovely lines. Sizes 12 to 20 $29.95 in our specialty shop Cut: Use a cut of girl posed in a gown Signature: Rosev's Parlor, Bay Street
3.4	The student will demonstrate his knowledge of preparing camera copy for reproduction by orally answering given questions with 75% accuracy.	3.4	Answer the following questions: 1. Indicate whether the copy listed below would be shot as line copy or halftone copy. a. a portrait photograph _____ b. a typewritten letter _____ c. an original oil painting _____ d. pen & ink drawing _____ 2. Should an original drawing be made larger or smaller than the final printed page? Why? _____ _____ 3. The procedure used to mark photographs to indicate irrelevant portions to be eliminated is called _____. 4. Which of the two halftone screens are commonly in use today? a. 28 b. 65 c. 133 d. 430

COURSE PRINTING - INTERMEDIATE

TERMINAL PERFORMANCE OBJECTIVE NO. 3.0 (cont'd) LAYOUT & DESIGN

NO.	INTERMEDIATE PERFORMANCE OBJECTIVES	NO.	CRITERION MEASURES
3.5	The student will demonstrate his skill in preparing camera copy for reproduction by completing two exercises with 100% accuracy.	3.5	1. On a tissue overlay indicate how you would crop unwanted portions of a photograph. 2. Using the diagonal line method, show the resulting width of a cropped photograph, 2 1/4 x 2 1/4 when it is enlarged to 4".
3.6	The student will demonstrate his skill in advanced layout technique by designing a complex cross rule form according to given instructions with 75% accuracy according to the grading scale below: Grading Scale: 1. Neatness 2. Accuracy 3. Adherence to instructions 4. Effective use of time	3.6	Complete the following assignment: 1. a. On an 8 1/2" x 11" sheet of paper, outline an image area of 7" x 9". b. Use the attached rough layout to type all information except the printing company name on the typewriter in its final position. Use another method of setting the display head for your printing company. c. Rule in the liner around the copy after it is typed. 2. Complete another paste-up of the same form, but this time rule the line first, then use each of the following three methods to cut in the heads. a. Cut the word and use rubber cement to paste it in position. b. Cut out a small window where the word is to appear, then tape it from behind. c. Line up the word to be inserted over the desired position in the paste-up. Cut a window through the paper with the word as well as the paste-up sheet. Place a piece of scotch tape beneath the hole in the paste-up sheet. Place the word to be inserted on top of the tape. TURN IN THE COMPLETED ASSIGNMENT TO YOUR INSTRUCTOR.

COURSE PRINTING - INTERMEDIATE

TERMINAL PERFORMANCE
OBJECTIVE NO. 4.0 COMPOSITION

The student will demonstrate his knowledge of hot type composition, cold type composition, and proofreading by completing a written test with 70% accuracy and will demonstrate skill in hot and cold type composition and proofreading by completion of problems with 75% accuracy as measured by the shop rating scale: 1.) Design and print a 2 color business card, 2.) Design a 2 color letterhead, 3.) Design and print a return address on an envelope, 4.) Design and print a school form using rapidograph pens, 5.) Design and print an advertisement for a product, and 6.) Proofread and mark a paragraph.

NO.	INTERMEDIATE PERFORMANCE OBJECTIVES	NO.	CRITERION MEASURES
		4.0	See attached test. PROBLEMS: 1. Design and print a 2 color business card as assigned by the instructor. 2. Design a matching 2 color letterhead. 3. Design a matching return address for an envelope. 4. Design a school form using rapidograph pens. 5. Design an advertisement for a product. 6. Proofread and mark the paragraph given you.
.1	The student will demonstrate his knowledge of hot type composition by answering orally questions with 75% accuracy.	4.1	Answer the following questions. 1. A repro proof on paper may be photographed in order to obtain a film _____ from it. 2. A repro proof on acetate may be contact printed to make a film _____. 3. Indicate which of the following are hot type or cold type. _____1. Proof of a galley of type. _____2. A ludlow slug. _____3. A typewritten page. _____4. A linotype slug. 4. What tool does the printer use to measure the body size of type? _____

COURSE PRINTING - INTERMEDIATE

TERMINAL PERFORMANCE OBJECTIVE NO. 4.0 (cont'd) COMPOSITION

NO.	INTERMEDIATE PERFORMANCE OBJECTIVES	NO.	CRITERION MEASURES
4.2	The student will demonstrate his skill in hot type composition by setting up type for a 2 color business card, letterhead, and return address for an envelope according to the grading scale below: Grading Scale: 1. adherance to acceptable layout principles 2. neatness 3. accuracy 4. effective use of time	4.2	1. Design a 2 color business card, proof and run 50 copies on the platen press 2. Design a 2 color letterhead, proof and run 50 copies on the platen press. 3. Design a return address for a business, proof and run 25 copies on a No. 10 envelope.
4.3	The student will demonstrate his knowledge of cold type composition by answering given questions orally with 75% accuracy.	4.3	Answer the following test questions. 1. Name two methods of canceling an error in hand art preparation. 2. Commercially prepared sheets of line and halftone pictures, slogans, borders, etc. are known as _____ art. 3. What kind of typewriter ribbon helps insure dense, black letters when camera copy is prepared? 4. Name the kind of offset plate (master) that is ordinarily prepared by typing the image on the plate.
4.4	The student will demonstrate his skill in cold type composition by completing assigned exercises with 75% efficiency according to the grading scale below: 1. adherance to good cold type setting technique 2. neatness 3. accuracy 4. effective use of time	4.4	a. Design a form for the school or a business using rapidograph pens to rule lines and at least two different sizes of transfer letters. Print 50 copies on the offset press. b. Design or redesign an advertisement for a product. Incorporate a title set with a photowriter, text set with a typewriter or equivalent, a cut or picture, and a signature set with transfer letters. Print 25 copies and return to the instructor for grading.

COURSE PRINTING - INTERMEDIATE

TERMINAL PERFORMANCE OBJECTIVE NO. 4.0 (cont'd) COMPOSITION

NO.	INTERMEDIATE PERFORMANCE OBJECTIVES	NO.	CRITERION MEASURES
4.5	The student will demonstrate his knowledge of proofreading symbols by answering questions on a written test with 75% accuracy.	4.5	Show the proofreaders symbols for the following: 1. Wrong font 2. Insert space 3. Delete 4. Let it stand 5. Period 6. Comma 7. Begin a paragraph 8. No paragraph 9. Two-em space (quad) 10. Apostrophe 11. Upside down letter (invert this letter) 12. Push down space 13. Letter-space 14. Less space between words 15. Defective letter 16. Lower-case letter 17. Set in Roman type 18. Set in boldface type 19. Query to author 20. Indent two ems

COURSE PRINTING - INTERMEDIATE

TERMINAL PERFORMANCE OBJECTIVE NO. 4.0 (cont'd) COMPOSITION

NO.	INTERMEDIATE PERFORMANCE OBJECTIVES	NO.	CRITERION MEASURES
4.6	The student will demonstrate	4.6	Proofread and mark paragraph A so the copy will agree with paragraph B. A. Benjamin franklin, believed by some to have been the most emportant american citizen of his time learned printing from his brother. By 1732 had he his own printing office and became the publisher of the Pennsylvania Gazette. Among the the publications Franklin printed Poor Richards Almanack became the most famous. Franklins high regaurd for his craft is evident by the words which he began his will: "I, Benjamin Franklin, Printer..." B. Benjamin Franklin, believed by some to have been the most important american citizen of his time, learned printing from his brother. By 1732 he had his own printing office and became the publisher of the "Pennsylvania Gazette". Among the publications Franklin printed, Poor Richards' Almanack became the most famous. Franklin's high regard for his craft is evident by the words with which he began his will: "I, Benjamin Franklin, Printer. . ."

PRINTING - INTERMEDIATE

TEST - 1st 9 weeks - 50 required answers

(1.0)1. List the four criteria use in determining your grade in the printing lab.
a.
b.
c.
d.

(1.2)2. A worker who persists in "horseplay" should be barred from the shop for whose protection?
_____ and _____

3. Whose permission must be obtained before equipment is operated or adjusted or before mixing chemicals?
_____

4. Before you begin operating a machine, what do you do with the following?

a. sleeves
b. jewelry
c. long hair

5. What type of eye protection device is compulsory to wear when chemicals are being mixed or used?
_____

6. What is the maximum number of students allowed to operate the cutter at one time?
_____

(2.0)7. How long does a copyright exist?
_____

8. Is it legal to make a negative of a one dollar bill at 200%?
_____

9. Is it legal to make a copy of your birth certificate?
_____

10. Is it legal to make a copy of your driver's license?
_____

(3.1)11. Before full size layouts are prepared, small _____ sketches are made.

12. A layout which is full size and resembles as closely as possible the final desired job is known as a _____ layout.

13. Type, 14 points and larger is called _____ type.

14. Two of the reasons for making full size, detailed layouts are to make sure the _____ will be satisfied with the final printed job and to inform each _____ of exactly what is to be done in the production of the job.

(3.4) 15. Indicate whether the copy listed below would be shot as line copy or halftone copy.

a. a portrait photograph
b. a typewritten letter
c. an original oil painting
d. pen and ink drawing

16. Should an original drawing be made larger or smaller than the final printed page? _____ Why?_____
_____

17. The procedure used to mark photographs to indicate irrelevant portions to be eliminated is called _____.

18. Which two halftone screens are commonly in use today? Circle the correct answers.

a. 28
b. 65
c. 133
d. 240

(4.1) 19. When a repro proof is photographed, the result is a film _____.

20. A repro proof on acetate may be contact printed to make a film _____.

21. Indicate which of the following are hot type or cold type.

____a. proof of a galley
____b. a Ludlow slug
____c. a typewritten page
____d. a linotype slug

22. What tool does the printer use to measure the body size of type?
_____

(4.1) 23. Name two methods of cancelling an error in hand out preparation.
1._____
2._____

24. Commercially prepared sheets of line and halftone pictures, slogans, boarders, etc. are known as _____.

25. What kind of typewriter ribbon helps insure dense, black letters when camera copy is prepared?

_____

26. Name the kind of offset plate that is ordinarily prepared by typing the image directly on the plate.

27. Show the proofreader's symbols for the following.

    a. wrong font
    b. insert space
    c. delete
    d. less space between words
    e. defective letter
    f. lower case letter
    g. set in bold face
    h. indent two ems

COURSE PRINTING - INTERMEDIATE

TERMINAL PERFORMANCE OBJECTIVE NO. 5.0

PROCESS PHOTOGRAPHY

The student will demonstrate his knowledge of line, halftone, and color reproduction by completing a written test with 70% accuracy and demonstrate his skill in line, halftone and color reproduction by completing the following exercises with 75% accuracy as measured by the established shop rating scales: 1.) Determine the best f-stop and exposure time for the shop camera, 2.)Produce an accurately exposed line negative, halftone negative and color exercise, 3.) Print a 3 color close registration assignment, and 4.) Print a given color separation assignment.

NO.	INTERMEDIATE PERFORMANCE OBJECTIVES	NO.	CRITERION MEASURES
		5.0	See attached test. EXERCISES: 1. Determine the best f-stop and exposure time for the shop camera. 2. Produce an accurately exposed line negative, halftone negative, and color reproduction. 3. Print a 3 color close registration assignment. 4. Print a given color separation assignment.
5.1	The student will demonstrate his knowledge of line photography by answering given questions orally with 75% accuracy.	5.1	1. Line photography is the copying on film of camera copy which consists entirely of dots, lines and areas of a single _____ or _____. 2. There are two general types of process cameras, The type in which elements slide longitudinally is called a _____ camera; that in which elements slide up and down is called a _____ camera. 3. An advantage of the vertical camera is that it takes up less _____ area than cameras of similar capacity. 4. With the sensitivity guide, normal copy should develop a good, black step _____.
.2	The student will demonstrate his skill in producing line negatives by determining the best length of exposure and best f-stop for same size reproductions.	5.2	a. Determine the best length of exposure for our shop camera at 100%. b. Determine the best f-stop for our shop camera at 100%.

COURSE PRINTING - INTERMEDIATE

ERMINAL PERFORMANCE
BJECTIVE NO. 5.0 (cont'd) PROCESS PHOTOGRAPHY

NO.	INTERMEDIATE PERFORMANCE OBJECTIVES	NO.	CRITERION MEASURES
5.3	The student will demonstrate his skill in developing a negative to a solid step on the cameramans sensitivity guide to within a half step tolerance.	5.3	Using the cameramans sensitivity guide, expose a line negative and develop to a solid step 4. Mount the negative on a sheet of index stock in your notebook.
5.4	The student will demonstrate his knowledge of halftone photography by answering orally given questions with 75% efficiency.	5.4	Answer the following test questions: 1. Camera copy which contains _____ of tone typically is produced by the halftone process. 2. A printed halftone is an _____ illusion; the "picture" is actually composed of thousands of _____. 3. If a printed picture is to resemble most closely the original photograph, which halftone screen is used - 65-line, 120-line, or 300-line? 4. A generally satisfactory halftone negative has shadow area dots which range in size from 10% to (1)_____%; mid-tones which range from a (2)_____% dot to a 70% dot; and highlight areas with dots that are about (3)_____%.
5.5	The student will demonstrate his skill in halftone photography by exposing a halftone negative using different screen valves available in the shop and printing them using different grade and type of stock with 100% accuracy according to the grading scale below: 1. ability to follow instructions 2. quality of halftone negatives 3. quality of printed halftones 4. effective use of time	5.5	Using all available halftone screens in the shop, expose a halftone negative with each screen. Then print all negatives, at the same time on the offset press using different stock such as bond, duplicator, mimeo and a coated stock. Label each screen valve on the printed sheets and evaluate the results with the instructor.

COURSE PRINTING - INTERMEDIATE

TERMINAL PERFORMANCE OBJECTIVE NO. 5.0 (cont'd) PROCESS PHOTOGRAPHY

NO.	INTERMEDIATE PERFORMANCE OBJECTIVES	NO.	CRITERION MEASURES
5.6	The student will demonstrate his knowledge of color reproduction by answering given questions orally with 75% proficiency.	5.6	Answer the following test questions. 1. Name the three primary additive colors. _____, _____, _____ 2. Name the three principal subtractive primary colors. _____, _____, _____ 3. The three colors of process inks are (1)_____ (2)_____, and (3)_____(with usually a fourth plate printed in (4)_____ink). 4. In process-color printing, what color is produced by the following combinations? a. solid magenta and solid cyan _____ b. solid yellow and solid cyan _____ c. solid yellow and solid magenta _____
5.7	The student will demonstrate his skill in reproduction of color by overprinting yellow, magenta, and cyan process inks on an exercise sheet and print an example of a standard duotone and a duotone effect with 75% proficiency according to the grading scale: 1. creativity of design 2. accuracy in registration 3. ability to follow instructions 4. effective use of time	5.7	a. Print an exercise sheet of yellow, magenta, and cyan process inks with an overlapping of each color. Evaluate the results with your instructor. b. Print an example of a standard duotone and the smae example of a duotone effect. Compare the two with your instructor.
5.8	The student will demonstrate his skill in color printing by registering three colors requiring close registration with 75% accuracy according to the grading scale below: 1. accuracy in registration 2. proper use of register marks and pins 3. rubylith technique 4. effective use of time	5.8	Obtain a line illustration and create a three color print. Use proper techniques for registration and rubylith film.

COURSE PRINTING - INTERMEDIATE

TERMINAL PERFORMANCE OBJECTIVE NO. 5.0 (cont'd) PROCESS PHOTOGRAPHY

NO.	INTERMEDIATE PERFORMANCE OBJECTIVES	NO.	CRITERION MEASURES
5.9	The student will gain an understanding of process color printing by producing a four color print from the separation negatives provided with 75% accuracy according to the attached grading scale. For this project the negatives will be produced according to the procedure listed below by the instructor as a demonstration: 1. Using a selected Kodacolor negative place in enlarger 2. Make three exposures on Resisto Rapid Pan Paper, using the appropriate filter for each exposure. 3. Shoot the continuous tone prints made above with ortho film. Use the proper screen angle for each halftone separation. 4. Make proofs with 3m color key. GRADING SCALE: 1. screen angle accuracy 2. registration 3. quality of print 4. effective use of time	5.9	Given a set of separation positives, use the proper screen angles and produce halftone separation negatives, then strip in register the negatives and print 25 copies of the copy.

COURSE PRINTING - INTERMEDIATE

TERMINAL PERFORMANCE
OBJECTIVE NO. 6.0

DARKROOM PROCEDURES

The student will demonstrate his knowledge of darkroom procedures and film development by completing a written test with 70% accuracy and will demonstrate skill in mixing chemicals by completing an assignment to prepare chemicals properly with 100% accuracy.

NO.	INTERMEDIATE PERFORMANCE OBJECTIVES	NO.	CRITERION MEASURES
		6.0	See attached 9 weeks test. Prepare chemicals according to the instructors direction
6.1	The student will demonstrate his knowledge of darkroom technique by answering given questions orally with 75% proficiency.	6.1	Answer the following test questions: 1. Matching: Special techniques in printing are described in column A. Identify each by letter from column B. A / B (1) Lettering on halftone illustration — (a) Screened type effect (2) Interposing a screen between negative and print in frame — (b) Surprint (3) Exposing one negative several times in exact positions — (c) Silhouetted halftone print (4) Background of halftone illustration dropped out — (d) Registering multiple exposures 2. A contact film positive is made from a film negative. (a) With the two pieces of film in contact, which is on top, or facing, the exposure light - the film negative or the unexposed film? (b) The exposure light must pass through the film negative to reach the _____ film. 3. To make a contact film negative from a film positive, (a) Place the unexposed film on the bed of the printing frame. Is the emulsion side up or down? (b) Cover this with the film positive. Is the emulsion side up or down?

COURSE PRINTING - INTERMEDIATE

TERMINAL PERFORMANCE OBJECTIVE NO. 6.0 (cont'd) DARKROOM PROCEDURES

NO.	INTERMEDIATE PERFORMANCE OBJECTIVES	NO.	CRITERION MEASURES
		6.1	4. The areas of the emulsion which were not struck by the exposure light wash away during developing, and the result is _____ areas.
6.2	The student will demonstrate his ability to function in the darkroom by observing safety practices when mixing chemicals with 100% proficiency.	6.2	During each semester mix a workable solution of A & B Developer and Fixer as requested by the instructor.

COURSE PRINTING - INTERMEDIATE

TERMINAL PERFORMANCE OBJECTIVE NO. 7.0

STRIPPING

The student will demonstrate his knowledge of stripping procedures by answering questions on a written test with 70% accuracy and will demonstrate his skill in stripping by completing the following problems with 75% accuracy as measured by the shop rating scale: (1) Strip a negative to be printed "step and repeat" (2) Fold stripping impositions as assigned, and (3) Strip a four page booklet to be printed "work and turn".

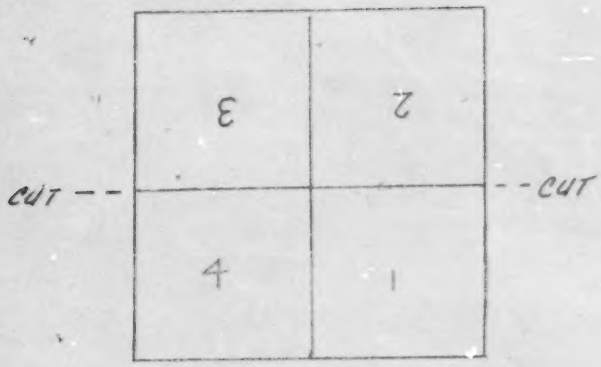
NO.	INTERMEDIATE PERFORMANCE OBJECTIVES	NO.	CRITERION MEASURES
		7.0	See attached 9 weeks test. PROBLEMS: 1. Strip a negative given you by the instructor to be printed "step and repeat" 2. Fold four stripping impositions as assigned 3. Strip a four page "how to" booklet to be printed "work and turn".
7.1	The student will demonstrate his knowledge of stripping by answering given questions orally with 75% accuracy.	7.1	Answer the following test questions. 1. To run a job "four-up" means that the one flat will carry the negatives for (1)_____ pages, or that the flat will carry (2)_____ identical negatives of the same job. 2. Exposing one negative a number of times in different positions on the same plate is known as _____ work. 3. Are two negatives spliced by butting them or by overlapping them? 4. With one stripped-up flat, it is possible to arrange to print two separate parts of a press sheet in different colors. In exposing the plate for the first color, cover all but the desired areas for the first color with a (1)_____. In exposing for the second color, mask the previously exposed areas, and expose only those desired areas for the (2)_____ color.

COURSE PRINTING - INTERMEDIATE

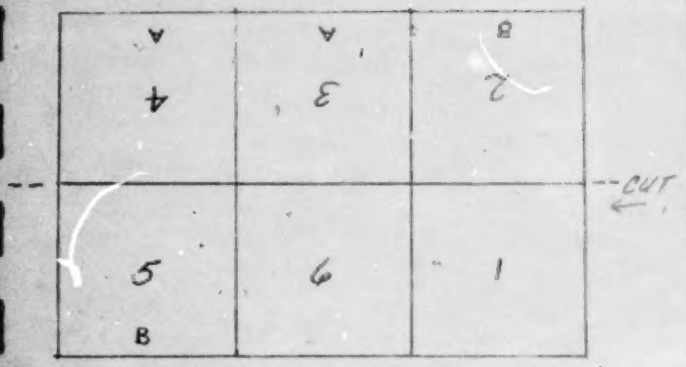
TERMINAL PERFORMANCE OBJECTIVE NO. 7.0 (cont'd) STRIPPING

NO.	INTERMEDIATE PERFORMANCE OBJECTIVES	NO.	CRITERION MEASURES
7.2	The student will demonstrate his skill in stripping by completing three exercises requiring step and repeat procedure and signature stripping with 75% accuracy according to the grading scale below: 1. proper stripping procedure 2. accurate positioning of negatives 3. ability to follow instructions 4. effective use of time	7.2	A. Strip a single negative 8" x 5" on a masking sheet. Then prepare the sheet for a "step and repeat" burn on the platemaker so that the result can be printed two up on an 8 1/2" x 11" sheet of paper. B. On an 8 1/2" x 11" sheet of paper, layout the following stripping impositions, then fold, cut and staple the imposition so it will be in proper page sequence. See attached sheet for imposition layout assignment. C. Design and print a booklet containing four pages. Print the folder "work and turn" on the press. The booklet should describe "how to" do something related to the print shop. Each page must contain an illustration on halftone as well as copy.

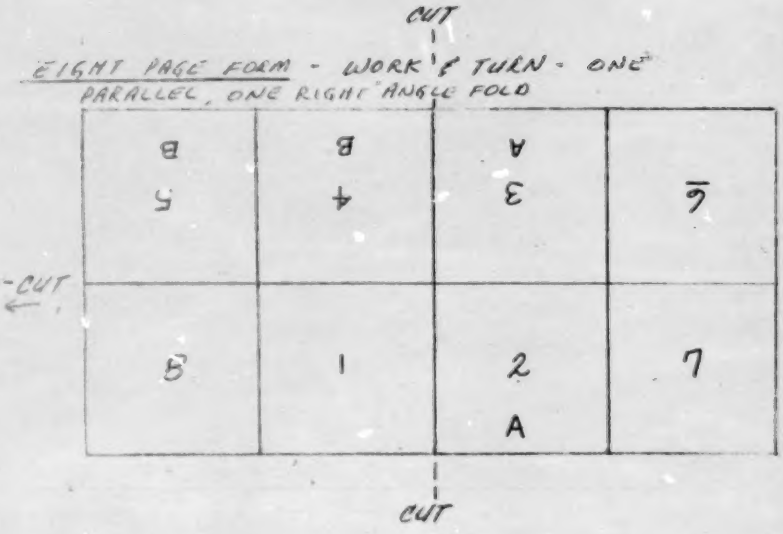
FOUR PAGE FOLDER



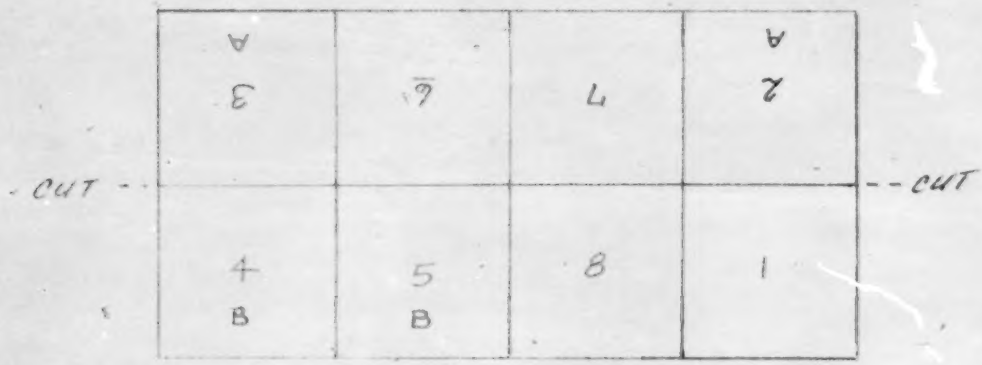
SIX PAGE FOLDER



EIGHT PAGE FORM - WORK & TURN - ONE PARALLEL, ONE RIGHT ANGLE FOLD



EIGHT PAGE FORM - WORK & TUMBLE - TWO PARALLEL FOLDS



NOTE:
THE LETTERS A & B INDICATE THE FOLDING SEQUENCE

COURSE PRINTING - INTERMEDIATE

TERMINAL PERFORMANCE OBJECTIVE NO. 8.0 PLATEMAKING

The student will demonstrate his knowledge of platemaking by completing a written test with 70% accuracy and demonstrate his skill in platemaking by completing the following problems with 100% accuracy.

1. Expose and develop a presensitized aluminum offset plate
2. Burn a flat set up for "step and repeat"
3. Produce good copy from a direct image plate.

NO.	INTERMEDIATE PERFORMANCE OBJECTIVES	NO.	CRITERION MEASURES
		8.0	See attached test. PROBLEMS: 1. Expose and develop a presensitized aluminum offset plate to a step 6 on the sensitivity guide. 2. Burn a flat previously stripped to be "step and repeat". 3. Prepare and print copies as required from a direct image plate.
.1	The student will demonstrate his knowledge of offset platemaking by answering given questions orally with 75% accuracy.	8.1	Answer the following questions. 1. What step on the gray scale should a plate be developed so as not "plug up"? 2. Name a type plate that has only one metal printing surface? 3. Use of a gray scale will insure consistent _____ and _____. 4. On what type offset plate is the image usually typed, pen and inked, etc.?
.2	The student will demonstrate his ability to produce an offset plate properly by exposing and developing a plate to a solid step 6 on the 21 step gray scale with accuracy to plus or minus one step on the scale.	8.2	Expose and develop a photo offset plate to a solid step 6 on the 21 step gray scale.

COURSE PRINTING - INTERMEDIATE

TERMINAL PERFORMANCE OBJECTIVE NO. 8.0 (cont'd) PLATEMAKING

NO.	INTERMEDIATE PERFORMANCE OBJECTIVES	NO.	CRITERION MEASURES
8.3	The student will demonstrate his skill in making a "step and repeat" exposure on a plate by making multiple exposures of the flat prepared in IPO 5.2-A with positioning at 100% accuracy.	8.3	Expose and develop the negative previously prepared by using the "step and repeat" process to burn the plate two up 8" x 5" on an 8 1/2" x 11" sheet.
8.4	The student will demonstrate his skill in preparing a direct image plate by imprinting with a letterpress form, typing and hand drawing on the master and produce good quality prints off the press with 100% accuracy.	8.4	Prepare a direct image plate which includes imprinting with a letterpress form, typing, and hand drawing. Print 25 good quality copies on the offset press.

PRINTING - INTERMEDIATE

Test - 2nd 9 weeks - 50 required answers

(5.1) 1. Line photography is the copying on film of camera copy which consists entirely of dots, lines, and areas of a single _____ or _____.

2. There are 2 general types of process cameras. The type which elements slide parallel to the floor is called a _____ camera; that in which elements slide up and down is called a _____ camera.

3. An advantage of the vertical camera is that it takes less _____ area than cameras of similar capacity.

4. With the sensitivity guide, normal copy should develop a good, black step _____.

(5.4) 5. Camera copy which contains _____ of tone typically is produced by the halftone process.

6. A printed halftone is an _____ illusion; the "picture" is actually composed of thousands of _____.

7. If a printed picture is to resemble most closely the original photograph, which Halftone screen is used?

a. 65-line
b. 120-line
c. 300-line

8. A generally satisfactory halftone negative has shadow area dots of 10% to _____%. Midtones range from a _____% dot to a 70% dot; and highlight areas with dots are about _____%.

(5.6) 9. Name the three primary additive colors.

a._____
b._____
c._____

10. Name the three principal subtractive primary colors.

a._____
b._____
c._____

11. The three colors of process inks are:

a._____
b._____
c._____

12. In process color printing, what color is produced by the following combinations?

    a. magenta and cyan = _____
    b. yellow and cyan = _____
    c. yellow and magenta = _____

(6.1)13. MATCHING: Special techniques in printing are described in column A. Identify each by letter from Column B.

A	B
1. Lettering on halftone illustration	a. screened type effect
2. Interposing a screen between negative and plate	b. surprint
3. Exposing one negative several times in exact positions	c. silhoueted halftone print
4. Background of halftone illustration dropped out	d. registering multiple exposures

14. A contact film positive is made from a film negative.

    a. With the 2 pieces of film in contact, which is on top or facing the exposure light - the film negative or unexposed film?
    _____

    b. The exposure light must pass through the film negative to reach the _____ film.

15. To make a contact film negative from a film positive:

    a. Place the unexposed film on the bed of the printing frame. Is the emulsion side up or down? _____
    b. Cover this with the film positive. Is the emulsion side up or down? _____

16. The areas of the emulsion which were not struck by the exposed light wash away during developing and the result is a _____ area.

(7.1)17. To run a job "four-up" means that the one flat will carry the negatives for _____ pages, or that the flat will carry _____ identical negatives of the same job.

18. Exposing one negative a number of times in different positions on the same plate is known as _____ work.

19. Are 2 negatives spliced by butting or by overlapping them?
_____

20. With one stripped-up flat, it is possible to arrange to print two separate parts of a sheet in different colors. In exposing the plate for the first color, cover all but the desired areas for the first color with a _____. In exposing for the second color, mask the previously-exposed areas, and expose only those desired for the _____ color.

(8.1)21. What step on the gray scale should a plate be developed so as not to "plug-up"?

22. Name a type plate that has only one metal coated printing surface. Type_____

23. Use of a gray scale will insure consistent _____ and _____.

24. On what type offset plate is the image usually typed, pen and inked, etc.?

_____

25. Descriptions of the three main types are listed in column A. Indicate by letter from Column B which plate is described.

A	B
____1. This type includes the direct image plate	a. Relief Plate
____2. Available as pre-sensitized	b. Surface Coated Plate
____3. Ink-bearing image is etched below the clear area	c. Deep Etch Plate
____4. Non-image area is etched below the image area	
____5. Base material may be paper, acetate, or aluminum foil	

COURSE PRINTING - INTERMEDIATE

NAL PERFORMANCE
TIVE NO. 9.0

OFFSET INK AND PAPER

The student will demonstrate his knowledge of ink and paper by completing a written test with 70% accuracy.

INTERMEDIATE PERFORMANCE OBJECTIVES	NO.	CRITERION MEASURES
	9.0	See attached 9 weeks test. 1. Name the three main components of most offset inks. 2. An opaque ink will show in its _____ color when another ink is overprinted. 3. Overprinting with a _____ ink will allow previously printed colors to show through clearly. 4. To obtain a very light blue ink, would you add white to blue or blue to white? 5. What ingredient in the ink gives it color? 6. How many sheets are in a ream of paper? 7. Name 3 kinds of pulp from which paper is commonly made. 8. On which side of the paper does the watermark appear in right reading form? 9. Can better results be expected when printing on the felt side or wire side of the paper? 10. Does paper bend or crease more readily with the grain on or across the grain?

COURSE PRINTING - INTERMEDIATE

TERMINAL PERFORMANCE
OBJECTIVE NO. 10.0

BINDERY OPERATIONS

The student will demonstrate his knowledge of bindery operations by completing a written test with 70% accuracy and demonstrate skill in bindery operations by completing the following problems with 100% accuracy.

1. Cut paper according to specifications
2. Fold signature according to specifications
3. Bind paper as required by the instructor

NO.	INTERMEDIATE PERFORMANCE OBJECTIVES	NO.	CRITERION MEASURES
		10.0	See attached 9 weeks test. PROBLEMS: 1. Cut a larger sheet of paper according to the instructor's specifications. 2. Fold paper signatures according to the instructor's assignment. 3. Bind the signatures above by stitching.
10.1	The student will demonstrate his knowledge of bindery operations by answering given questions orally with 75% accuracy.	10.1	Answer the following questions: 1. How many 8 1/2" x 11" letterheads can be cut from two reams of 17" x 22"? 2. If you need 8,000 pieces of card stock, 5 1/2" x 8", how many sheets of 17" x 22" will you need? If the stock cost $12.00 per month, how much will it cost to run the job? (Disregard spoilage) 3. "Seasoning" the paper means to allow it to reach the same _____ as the pressroom. 4. What kind of paper stock is generally used for printing checks?
10.2	The student will demonstrate his skill in cutting paper by diagraming and cutting a sheet of paper 22 1/2" x 28 1/2" so that he will obtain 9 sheets of 6" x 10" stock with 100% accuracy.	10.2	Diagram and cut on the paper cutter a sheet of 22 1/2" x 28 1/2" to 6" x 10" with at least 9 sheets out. (Disregard grain)
10.3	The student will demonstrate his skill in paper folding operations by folding a 12 page folder in 2 ways on a 16 page booklet in 2 ways with 100% accuracy.	10.3	a. Fold a 12 page folder, both using one parallel fold and two right angle folds. Use an accordian fold on one. b. Fold a 16 page folder, then stitch and trim into a 16 page booklet using 2 different methods. 1. Use 1 parallel fold and 2 right angle folds. 2. Use 3 parallel folds.

COURSE PRINTING - INTERMEDIATE

ERMINAL PERFORMANCE
BJECTIVE NO. 11.0 OFFSET PRESS OPERATION

The student will demonstrate his knowledge of press operation and maintenance by completing a written test with 70% accuracy and demonstrate his skill in press operation by completing the following problems with 75% accuracy as measured by the shop grading scale.

1. Troubleshoot problems on the press created by the instructor.
2. Clean, lubricate and adjust the press.

NO.	INTERMEDIATE PERFORMANCE OBJECTIVES	NO.	CRITERION MEASURES
		11.0	See attached test. PROBLEMS: 1. Troubleshoot the offset press to insure smooth feeding and quality reproductions 2. Clean, lubricate and adjust the press as required by the instructor.
11.1	The student will demonstrate his knowledge of press operation by orally identifying the function of various controls on the press.	11.1	Answer the following test questions: 1. List the 6 major areas of a single color offset press. 2. Any roller, in either the inking or the dampening train of rollers, which touches the plate is known as a _____ roller. 3. Emulsification in presswork usually indicates that too much _____ is mixing with the ink and diluting it. 4. To vary the amount of ink fed to specific areas across the plate, adjust the _____.
11.2	The student will demonstrate his skill in press operation by solving press problems created by the instructor with 100% accuracy.	11.2	Troubleshoot the press problem given by the instructor and make any necessary adjustments to correct the problem.
11.3	The student will demonstrate his skill in press maintenance by lubricating and cleaning the offset press according to the lubrication chart in the press manual with 75% accuracy according to the attached grading scale.	11.3	Clean, lubricate and make any minor necessary adjustments on all offset presses. Follow the lubrication chart in your press manual. Have the job checked by your instructor.

COURSE PRINTING - INTERMEDIATE

ERMINAL PERFORMANCE
BJECTIVE NO. 11.0 (cont'd) OFFSET PRESS OPERATION

NO.	INTERMEDIATE PERFORMANCE OBJECTIVES	NO.	CRITERION MEASURES
	GRADING SCALE: 1. Followed outlined procedure in manual 2. Lubricated all indicated moving parts 3. Cleaned press to instructor's standards 4. Made minor adjustments properly		

PRINTING - INTERMEDIATE

Test - 3rd 9 weeks - 25 possible answers

(9.0) 1. Name the three main components of most offset inks.

a._____
b._____
c._____

2. An opaque ink will show in its _____ color when another ink is overprinted.

3. Overprinting with a _____ ink will allow previously printed colors to show through clearly.

4. To obtain a very light blue ink, would you add white to blue or blue to white?

_____

5. What ingredient in the ink gives it color?

_____

6. How many sheets in a ream of paper?

_____

7. Name three kinds of pulp from which paper is commonly made.

a._____
b._____
c._____

8. On which side of the paper does the watermark appear in right reading form?

_____

9. Can better results be expected from printing on the felt side or wire side of the paper?

_____

10. Does paper bend or crease more readily with the grain or across the grain?

_____

(10.1)11. How many 8 1/2" x 11" letterheads can be cut from two reams of 17" x 22"?

_____

12. a. If you need 8,000 pieces of card stock, 5 1/2" x 8", how many sheets of 17" x 22" will you need? _____
b. If the stock costs $12.00 per M, how much will it cost to run the job? (Disregard spoilage) _____

13. "Seasoning" the paper means to allow it to reach the same _____ as the pressroom.

14. What kind of paper stock is generally used for printing checks?
_____

(11.0)15. Name the three main cylinders of an offset duplicator.
a._____
b._____
c._____

16. Any roller, in either the inking or dampening train of rollers, which touches the plate is known as a _____ roller.

17. Emulsification in presswork usually indicates that too much _____ is mixing with the ink and diluting it.

18. To vary the amount of ink fed to specific areas across the plate, adjust the _____.

COURSE PRINTING - INTERMEDIATE

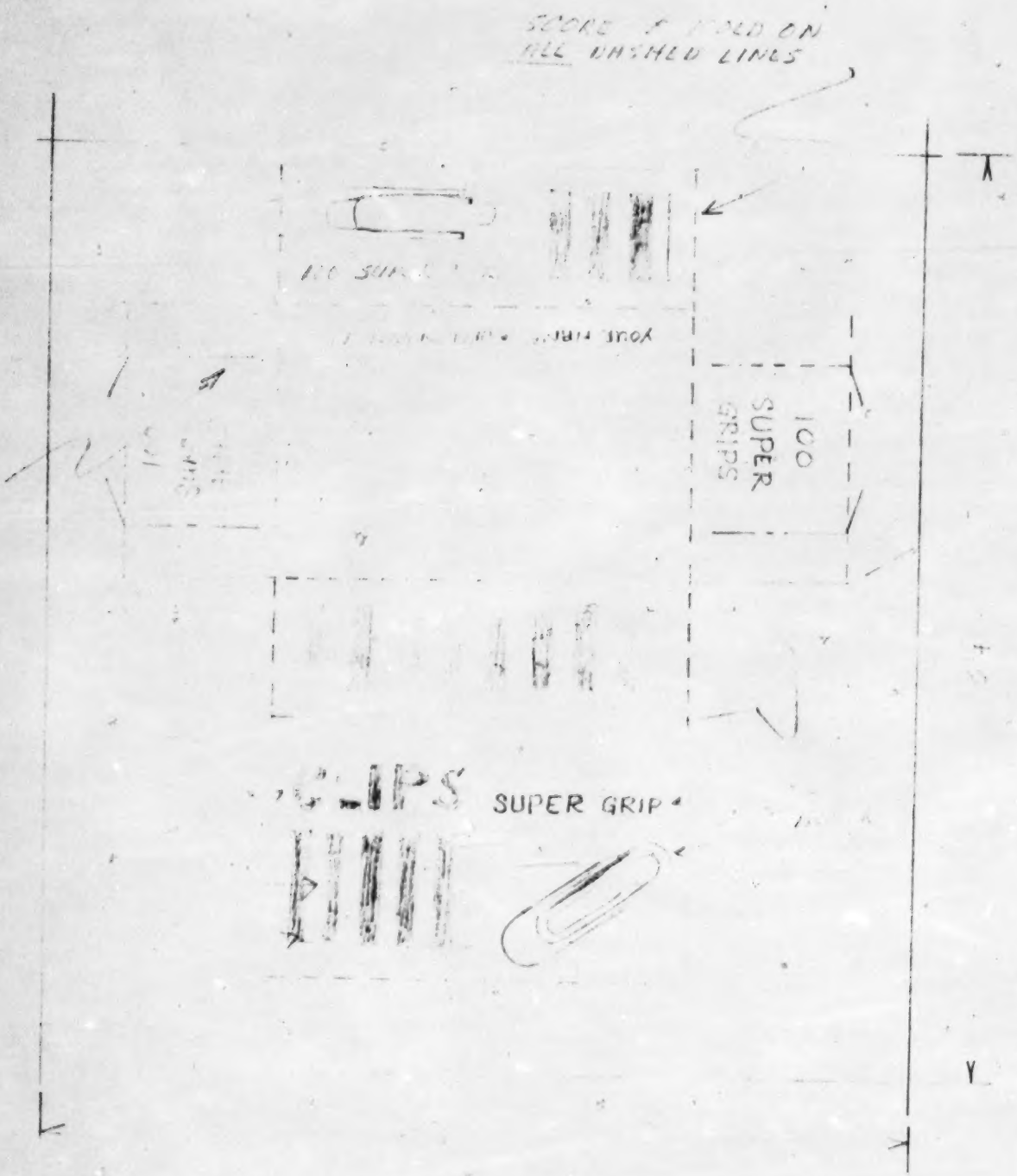
TERMINAL PERFORMANCE OBJECTIVE NO. 12.0

PRODUCTION PROBLEMS

Given three simulated industrial printing production problems the student will design, set up, and produce each problem with 75% accuracy as measured by the attached rating scale.

NO.	INTERMEDIATE PERFORMANCE OBJECTIVES	NO.	CRITERION MEASURES
	RATING SCALE: 1. Adherance to instructions 2. Quality copy 3. Good registration 4. Effective use of time	12.0	Complete the three assigned production jobs and submit finished copies of each to the instructor for grading, then mount copies in your notebook. See attached job sheets.

Print the two color box below on 5 3/4" x 6 1/4" index stock.score Score the dashed lines for folding and use an x-acto knife to cut out the box. Fold and submit to the instructor for grading.



Design a 2 color greeting card which incorporates the use of a die out window. Use sample cards shown to you by your instructor as a pattern. Score the fold to facilitate folding.

Set up and print the book cover below according to the rough layout provided. After printing, bind enough blank pages into the cover to form a paper back book.

COURSE PRINTING - INTERMEDIATE

TERMINAL PERFORMANCE
OBJECTIVE NO. 13.0 OCCUPATIONS AND EVALUATION

The student will demonstrate his knowledge of existing job opportunities by visiting a production printing shop and orally reporting to the class information on job availability, salary scales, working conditions and education requirements with 100% compliance as well as report to the instructor for a simulated job interview and evaluation with 100% compliance.

NO.	INTERMEDIATE PERFORMANCE OBJECTIVES	NO.	CRITERION MEASURES
		13.0	A. Visit a production printing shop and orally report to the class information on job availability, salary scales, working conditions, and education requirements. B. Report to the instructor for a job interview and written evaluation of personal industrial work habits. (Evaluation sheet attached) C. Mount on a sheet of paper and turn in to the instructor 10 different printing job advertisements found in the want ads under the "trades" heading in the newspaper.

SUGGESTED GRADE RECORDING PROCEDURES FOR THIS GUIDE

Tests and practical work are weighed differently in this course. More emphasis is placed on whether a student can perform a skill and solve a problem than how well he does on a written test. Therefore separate progress charts are provided - One for tests, the other for projects.

On the test chart are three groupings of IPO's which represent nine weeks tests. These scores can be recorded individually for each IPO or collectively as a nine weeks test. On the actual test, included in this guide, it is noted which questions represent each IPO. For the fourth nine weeks final examination, TPO 13.0 - B is used. This TPO evaluates the students maturity, understanding of industries demands, and personal attributes he will need for entry into the printing occupations.

The progress chart for projects is a convenient means of recording the students degree of proficiency on each IPO. Thus, the student and the teacher can readily see where the needs of the individual and of the class lie.

PROGRESS CHART
PROJECTS

GRADING SCALE
A
B
C
D
E

REDESIGN JOB	3.2
SENIOR PLAY	3.3
SLINKY GOWNS	3.3
CROPPING	3.5
DIAGONAL LINE	3.5
BILLING FORM	3.6
BILLING FORM	3.6
BUSINESS CARD	4.2
LETTERHEAD	4.2
ENVELOPE	4.2
RULE FORM	4.4
REDESIGN AD	4.4
PROOFREADING	4.6
EXPOSURE & F-STOP	5.2
STEP 4 NEG	5.3
HALFTONE GROUP	5.5
3 COLOR EXERCISE	5.7
STANDARD DUOTONE	5.7
DUOTONE EFFECT	5.7
3 COLOR JOB	5.8
SEPARATION NEGS	5.9
MIX DEVELOPER	6.2
MIX FIXER	6.2
STEP & REPEAT	7.2
IMPOSITIONS	7.2
4 PAGE BOOKLET	7.2
STEP 6 PLATE	8.2
STEP & REPEAT PLATE	8.3
DIRECT IMAGE	8.4
DIAGRAM CUT	10.2
12 PAGE FOLD	10.3
16 PAGE FOLD	10.3
TROUBLE SHOOT	11.2
CLEAN & LUBE	11.2
JOB I	12.0
JOB II	12.0
JOB III	12.0
	12.0

PROGRESS CHART

TESTS

	IPO #	ORIENTATION	LEGAL RESTRICTIONS	LAYOUT & DESIGN AND COMPOSITION	TOTAL - 1st 9 weeks	PROCESS PHOTOGRAPHY	DARKROOM PROCEDURE	STRIPPING	PLATEMAKING	TOTAL - 2nd 9 weeks	INK & PAPER	BINDERY OPERATIONS	PRESS OPERATIONS	TOTAL - 3rd 9 weeks	FINAL EXAM - JOB INTERVIEW & EVALUATION
		1.1	1.2	2.0 3.1 3.4 4.1 4.5	5.1	5.4	5.6	6.1	7.1	8.1	9.0	10.0	11.0		
1															
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